NOVEMBER/DECEMBER 2023

CSC21 — C++ AND DATA STRUCTURES

Time : Three hours Maximum : 75 marks

LIBRARY

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define operator.
2. What is an expression?
3. What is single inheritance?
4. Define file modes.
5. What is Data structure?
6. Define Algorithm.
7. List the basic operations carried out in a linked list.
8. Define root.
9. What is a directed graph?
10. Define searching.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Illustrate the working of construction and destructors with an example.

Or

(b) Explain the control structures of C++ with suitable example.

12. (a) Explain in details about virtual function and polymorphism with an example.

Or

(b) Explain in detail about the detecting end of file.

13. (a) Explain the following

- Linear data structure.
- Non linear data structure.

Or

(b) Explain the array with an examples.

14. (a) Explain in details about the polynomial linked list.

Or

(b) Traverse the given tree using in order, pre order, and post order traversals.

15. (a) List the important key points of depth first search with an example.

Or

(b) List the important key points of Breadth first search with an example

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in details about the Data Types.

17. Explain the multiple inheritance.

18. Explain the stack and queues.

19. What are the differences between B tree and B+ tree?

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20. Explain the following :

- Adjacency matrix.
- Adjacency list.

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